REMARKS

Applicants and their undersigned attorney have carefully reviewed the first Office Action of August 5, 2003 in the above-identified patent application, together with the prior art references cited and relied on by the Examiner in the rejections of the claims. While the prior art references are related to the water purification systems and use related components and technical vocabulary, specific differences in technology exist between the present invention and the prior art references. The references cited against the subject application do not teach the present invention. Moreover, the present invention is not anticipated by, and is not obvious in light of, the prior art. In response, the claims of the subject application have been amended to more clearly define the subject invention over the prior art cited and relied on by the Examiner. Reexamination and reconsideration of the application, and allowance of the claims is respectfully requested.

The subject application discloses and claims a compact, energy efficient distillation system that is quick and easy to service and maintain. In the broadest sense, the system includes a heating element, a vessel containing a fluid to be heated, a condenser, a noninvasive sensor, and a storage reservoir. The improved efficiency of the system lies, in part, with the use of a double-walled vessel that allows incoming water to be preheated and pre-purified. Specifically, the vessel includes inner and outer spaced containers to form the double walled container. The heating element resides in the inner container. A preheating chamber, in fluid communication with an inlet line and the inner container, exists between the spaced walls and bottom walls of the two containers. The incoming water is heated as it passes through the preheating chamber to the inner container. Air vents allows contaminates in the preheated fluid to escape the distillation

system.

The noninvasive liquid level sensor, so named because it does not come into direct contact with the liquid contained in the inner container and does not have to be removed from the inner container when cleaning of that container is conducted, maintains the water level in the double walled vessel and also protects the components of the purification system. The sensor is contained in a housing that is in a fluid connection to the preheating chamber and to a solenoid valve, which controls the flow of fluid into the system. Moreover, the sensor is connected to a controller. When the sensor detects low water conditions, the controller opens the solenoid valve so that water flows into both the sensor housing and the preheating chamber. The controller can deactivate the heating element when the fluid level drops past a threshold point. Fluid level above a second threshold value causes the solenoid valve to be closed.

In the Office Action of August 5, 2003, the Examiner objected to an error in claim 5, line 2. The Examiner's objection is well-taken and appreciated. The claim has been amended as requested. Applicant also corrected a typographical error in paragraph 51 of the specification.

The Examiner rejected claims 1-2 and 10-21 under 35 U.S.C. 103(a) as being unpatentable over either Land (U.S. Patent No. 5,932,073) or Turner et al. (U.S. Patent No. 4,957,200) in view of any one of Salmon (5,348,623), Spencer (4,985,122) or Sundquist (4,690,102) and rejected claims 3-9 under 35 U.S.C. 103(a) as being unpatentable over Land or Turner in view of anyone of Salmon, Spencer or Sundquist and further in view of Harkey, Sr. (5,059,287).

First, claims 1-2 and 10-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over either Land or Turner et al. in view of anyone of Salmon, Spencer or Sundquist. The patent

to Land, who is the inventor in the subject application, generally describes a distillation apparatus but it does not teach several features of the present invention including, among other things, the non-invasive sensor or the dual container vessel. (See claim 1 of the subject application). The Turner reference does not teach the double container vessel, the non-invasive sensor, or a storage tank connected to a condenser for receiving and storing distilled water. The condenser unit in Turner's distillation apparatus merely has an outlet 81 that "exits the apparatus 11 through the gap 45 between the cover 15 and the outer member 13 where it terminates a short distance away."

In contrast, claim 1 of the subject application, from which claims 2 and 10-21 depend, claims each of these features. While the Examiner agrees that Turner and Land do not recite the non-invasive sensor present in the subject application, the distillation apparatus of the subject application also includes "a storage tank in said housing connected to said condenser for receiving and storing distilled water." (See claim 1). Turner lacks a storage tank for distilled water. The double-container vessel of claim 1 also is not taught or suggested by Land or Turner.

The claims have been amended to more clearly distinguish these differences over the prior art. Applicant requests that the claims be amended in order to clarify the scope of the claims. With claim 1 so amended, reconsideration and allowance of the claims over Land and Turner is respectfully requested.

Even if the Examiner's contention that Land and Turner taught the invention of the subject application, save for the non-invasive sensor, were true, Applicant would disagree that the non-invasive sensor of the subject application is known by anyone of Salmon, Sundquist or Spencer. Specifically, the Salmon patent teaches a hot water heater and distiller with a "pre-

chamber" sensor 330 that controls the solenoid valve 350. (See column 12, line 64 - column 13, line 7). Solenoid valve 350 is located on a discharge pipe 348 that connects to the hot water storage tank. Water entering the pre-chamber is preheated. In contrast, the sensor housing and sensor of the subject application is connected to a controller that controls the water inlet solenoid. The controller is also usable to shut of power to the heating element. The non-invasive level sensor of Salmon does not establish any control over the heating element. Likewise, the float valve 26 of Sundquist does not provide electronic switches and is not connected to a controller. It appears the distillation units of both Salmon and Sundquist are intended for large scale water systems. (See, e.g., Sundquist Column 3, line 52).

Spencer teaches a pre-chamber for incoming fluid in a distillation apparatus whereby pressure differences equalize fluid levels in the pre-chamber and evaporator. It does not appear that the reference is relevant to the subject application, at least for the purpose of teaching a non-invasive sensor.

The Salmon, Sundquist and Spencer references do not show or suggest the structure of the non-invasive sensor of the subject invention, which is a point of use water purification system. There is no teaching or suggestion of a controller connected to the non-invasive sensor. There is no teaching or suggestion that the non-invasive sensor and controller should control the water inlet valve or heating element of a water purification and distillation system. Therefore, Land and Turner, which fail to teach the non-invasive sensor, double-container vessel and other features, should not be read as anticipating or suggesting the invention of the subject application in light of Salmon, Sundquist and Spencer.

The Office Action next rejected claims 3-9 as being anticipated by Land and Turner in view of anyone of Salmon, Spencer or Sundquist and further in view of Harkey, Sr. However, as discussed above, Land and Turner do not teach or suggest several features, including the double-container vessel or the non-invasive sensor. Land and Turner can not be read in light of Salmon, Spencer of Sundquist to anticipate or suggest the non-invasive sensor. Moreover, while the cover in Harkey, Sr. suspends the heating element in a water distiller, claim 3 of the subject application states that the cover supports the heater in an inner container for heating water in the inner container and in a preheated region. Harkey, combined with the relied upon references does not teach or suggest the double-container vessel with a preheated chamber as is taught and claimed in the subject application.

The references discussed above do not show or suggest the structure of the subject invention. There is no teaching or suggestion of a double-container vessel that forms a preheating chamber. There is no teaching or suggestion of a non-invasive sensor that directly controls the inlet valve of a water distillation device or is in connection with a controller. The combination and result of the invention of subject application is not known or suggested in the prior art. The claims have been amended to further clarify the compact, easy-to-clean combination for the point of use water distiller of the present invention. As amended, all of the claims now pending in the application are believed to be patentable.

Claims 1, 3, 5, and 10 have been amended. Notably, claim 1 has been amended to clarify that the double-container vessel provides a preheated region between the containers. Claim 1 now also includes additional language related to the non-invasive sensor. Claim 2 has now been canceled. Claims 31-35 have been added. Independent claim 31 focuses on the non-

invasive sensor and controller combination not disclosed in any one of the Spencer, Sundquist or Salmon references. It is believed that the claims now pending are patentable over the prior art cited and relied upon by the Examiner. In view of the foregoing, reconsideration and re-examination of the application, allowance of the claims, and the passage of the application to issue is respectfully requested.

Respectfully submitted,

JONES, TULLAR & COOPER, P.C.

By: _____
Alexander D. Raring
Reg. No. 52,502

JONES, TULLAR & COOPER, P.C.
P.O. Box 2266 Eads Station
Arlington, Virginia 22202
703-415-1500
Date: November 5, 2003